

Please type a plus sign (+) inside this box



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0851-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	
		Filing Date	Herewith
		First Named Inventor	Hutchens, T. William
		Group Art Unit	Not yet assigned
		Examiner Name	Not yet assigned
Sheet 1 of 4	Attorney Docket Number	16866-002330	

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
DN	1	4,128,554		Rainin	11-21-1978	
	2	4,313,906		Filipi et al.	02-02-1982	
	3	4,468,468		Benninghoven et al.	08-28-1984	
	4	4,527,059		Benninghoven et al.	07-02-1985	
	5	4,752,562		Sheiman et al.	06-21-1988	
	6	4,963,263		Kauvar	10-16-1990	
	7	5,010,175		Rutter et al.	04-23-1991	
	8	5,045,694		Beavis et al.	09-03-1992	
	9	5,118,937		Hillenkamp et al.	06-02-1992	
	10	5,118,937		Hillenkamp et al.	06-02-1992	
	11	5,133,866		Kauvar	07-28-1992	
	12	5,135,627		Soane	08-04-1992	
	13	5,223,409		Ladner et al.	06-29-1993	
	14	5,260,571		Cottrell et al.	11-09-1993	
	15	5,288,644		Beavis et al.	02-24-1994	
	16	5,338,659		Kauvar	08-16-1994	
	17	5,340,474		Kauvar	08-23-1994	
	18	5,356,784		Kauvar	10-18-1994	
	19	5,376,249		Afeyan et al.	12-27-1994	
	20	5,445,934		Fodor et al.	08-29-1995	
	21	5,453,199		Afeyan et al.	09-26-1995	
	22	5,453,247		Beavis et al.	09-26-1995	
	23	5,498,545		Vestal	03-12-1996	
	24	5,538,897		Yates, III et al.	07-23-1996	
	25	5,541,070		Kauvar	07-30-1996	
	26	5,547,835		Koster	08-20-1996	
	27	5,571,698		Ladner et al.	11-05-1996	
	28	5,587,293		Kauvar et al.	12-24-1996	
	29	5,599,901		Kauvar	02-04-1997	
	30	5,605,798		Koster	02-25-1997	
	31	5,622,824		Koster	04-22-1997	
	32	5,719,060		Hutchens et al.	02-19-1998	
	33	5,780,232		Arlinghaus et al.	07-14-1998	

Examiner Signature	<i>[Signature]</i>	Date Considered	6/7/05
--------------------	--------------------	-----------------	--------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

WC 9039785 v1

Please type a plus sign (+) inside this box



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	
		Filing Date	Herewith
		First Named Inventor	Hutchens, T. William
		Group Art Unit	Not yet assigned
		Examiner Name	Not yet assigned
Sheet <b>2</b>	of <b>4</b>	Attorney Docket Number	16866-002330

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
DV	34	5,821,060		Arlinghaus et al.	10-13-1998	
DV	35	6,225,047		Hutchens et al.	05-01-2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Office <sup>4</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
✓	36	GB	2281122A			02/22/1995		
	37	PCT	WO 89/03430			04/20/1989		
	38	PCT	WO 89/09088			10/05/1989		
	39	PCT	WO 89/10977			11/16/1989		
	40	PCT	WO 91/02961			03/07/1991		
	41	PCT	WO 91/18980			12/12/1991		
	42	PCT	WO 91/19818			12/26/1991		
	43	PCT	WO 92/18619			10/29/1992		
	44	PCT	WO 94/06920			03/31/1994		
	45	PCT	WO 94/28418			12/08/1994		
	46	PCT	WO 94/28418			12/08/1994		
	47	PCT	WO 95/00530			01/05/1995		
	48	PCT	WO 95/35505			12/28/1995		
	49	PCT	WO 96/36986			11/21/1996		
	50	PCT	WO 96/37777			11/28/1996		
	51	PCT	WO 96/40888			12/19/1996		
	52	PCT	WO 97/09068			03/13/1997		
✓	53	PCT	WO 97/10365			03/20/1996		

Examiner Signature	<i>D. L. L. L.</i>	Date Considered	6/7/05
--------------------	--------------------	-----------------	--------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231  
WC 9039785 v1

Please type a plus sign (+) inside this box → ☐

PTO/SB/088 (08-00)

Approved for use through 10/31/2002 OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

3

of

4

## **Complete If Known**

Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

Herewith

Hutchens, T. William

Not yet assigned

Not yet assigned

16866-002330

## **OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
✓	54	CHEVRIER et al., "Matrix-assisted UV Laser Desorption of Proteins Using a 600 Picosecond Nitrogen Laser," 39th ASMS Conf. on Mass Spectrometry and Allied Topics, pp. 933-934	
	55	DOUGRUEL et al., "Rapid Tryptic Mapping Using Enzymatically Active Mass Spectrometer Probe Tips," Anal. Chem., 67:4343-4348 (1995)	
	56	HEFTA et al., "Analysis of Highly Glycosylated or Hydrophobic Membrane Proteins by Laser Desorption Time-Of-Flight Mass Spectrometry," 39th ASMA Conf. on Mass Spectrometry and Allied Topics, pp. 1416-1417	
	57	JONSSON et al., "Plasma Desorption Mass Spectrometry of Peptides and Proteins Adsorbed on Nitrocellulose," Anal. Chem., 58:1084-1087 (1986)	
	58	KARAS et al., "Principles and applications of matrix-assisted UV-laser desorption/ionization mass spectrometry," Analytica Chimica Acta, 241:175-185 (1990)	
	59	KLARSKOV et al., "Plasma Desorption Mass Spectrometry of Proteins Transferred from Gels After Sodium Dodecyl Sulphate-Polyacrylamide Gel Electrophoresis," Biol. Mass Spectrometry, 22:433-440 (1993)	
	60	KRONE et al., "BIA/MS: Interfacing Biomolecular Interaction Analysis with Mass Spectrometry," Anal. Biochem., 244:124-132 (1997)	
	61	KRONE et al., "Mass Spectrometric Immunoassay, in: Ultrasensitive Biochemical Diagnostics," Cohn et al. (Eds.), Proc. SPIE, 2680:415-421 (1996)	
	62	MACFARLANE et al., "Mass Spectrometric Study of Ion Adsorption on Poly(ethylene terephthalate) and Polypropylene Surfaces," Anal. Chem., 58:1091-1097 (1986)	
	63	MOCK et al., "Sample Immobilization Protocols for Matrix-assisted Laser-desorption Mass Spectrometry," Rapid Communications in Mass Spectrometry, 6:233-238 (1992)	
	64	NELSON et al., "Mass Spectrometric Immunoassay," Anal. Chem., 67(7):1153-1158 (1995)	
	65	NELSON et al., "Peptide Characterization Using Bioreactive Mass Spectrometer Probe Tips," Rapid Commun. Mass Spectrom., 9:1380-1385 (1995)	
	66	PAPAC et al., "Direct Analysis of Affinity-Bound Analytes by MALDI/TOF MS," Anal. Chem., 66:2609-2613	
	67	VAN DE WATER et al., "Detection of Molecular Determinants in Complex Biological Systems Using MALDI-TOF Affinity Mass Spectrometry," MASS SPECTROMETRY OF PROTEINS AND PEPTIDES, Humana Press, pp. 453-459	
✓	68	VESTLING et al., "Polyvinylidene difluoride (PVDF): an interface for gel electrophoresis and matrix-assisted laser desorption/ionization mass spectrometry," Biochemical Applications of Mass Spectrometry, 22:547-551 (1994)	

Examiner  
Signature

*David K...*

Date  
Considered

6/7/05

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.  
WC 9039785 v1

Please type a plus sign (+) inside this box →



PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO		<b>Complete If Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	
		Filing Date	Herewith
		First Named Inventor	Hutchens, T. William
		Group Art Unit	Not yet assigned
		Examiner Name	Not yet assigned
Sheet 4 of 4	Attorney Docket Number	16866-002330	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	69	WOODS et al., "Enzymatic digestion on the sample foil as a method for sequence determination by plasma desorption mass spectrometry: the primary structure of porpoise relaxin," <i>Int. J. Mass Spectrometry and Ion Processes</i> , 111:77-88 (1991)	
	70	ZALUZEC et al., "Direct Matrix-Assisted Laser Desorption Ionization Mass Spectrometric Analysis of Proteins Immobilized on Nylon-Based Membranes," <i>J. Am. Soc. Mass Spectrom.</i> , 5:230-237 (1994)	
	71	ZALUZEC et al., "MALDI-Mass Spectrometric Analysis of Proteins Immobilized on Nylon-based Membranes," <i>41st ASMS Conf. on Mass Spectrometry</i> , pp. 436a-436b (1993)	

Examiner Signature		Date Considered	6/7/05
--------------------	--	-----------------	--------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.  
WC 9039785 v1